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ABSTRACT

This report analyzes the long-term benefits, to children and society, of high-quality early childhood education. Specifically, it explores the contribution which these programs can make as a long-term social investment and as a means of ameliorating the effects of poverty. Evidence for the outcomes of such programs comes from a long-term study of the Perry Preschool Project in Ypsilanti, Michigan. Disadvantaged black children (N=123) aged 3 and 4 were randomly assigned to an experimental group (that received a high-quality preschool education) or to a control group (that received no preschool training). The study, initiated in 1962, is now in long-term follow-up. The study indicates that good preschool programs can lead to consistent improvement in poor children's achievement throughout their school years, a reduced delinquency and arrest rate, a reduced teenage pregnancy rate, and decreased dependency on welfare. Case studies of the project's children reveal factors which contribute to successful life patterns. Factors that contribute to successful preschool programs include the curriculum, parent involvement, and program quality. Many states are developing early childhood programs and allocating funds for them. Several policy issues must be resolved if services are to be restructured in such a way that all will benefit. These issues include the allocation of resources, the maintenance of high quality early childhood programs, day care, needs of middle class children, and dangers of formal academic standards for young children, distrust of public schools by some agencies that serve children, and shortage of personnel. (RJC)

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Quality Preschool Programs:

A Long-Term Social Investment

by David P. Weikart

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**QUALITY PRESCHOOL
PROGRAMS:
A Long-Term Social
Investment**

by David P. Weikart

Occasional Paper Number Five
Ford Foundation Project on
Social Welfare and the American Future

Ford Foundation
New York, N. Y.

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D. Brown

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Foreword

The United States has a two-pronged system of social welfare—one designed for labor-force participants and the other for those who do not work in the paid labor force. For workers, a combination of employee benefit and government social insurance programs provides protection against the risks of illness, disability, and unemployment and also sets aside funds for income maintenance and health coverage during the retirement years. Nonworkers, mainly children, the disabled, and the elderly, are sustained by a governmental safety-net program. Except for low-income single parents with young children, able-bodied, working-age adults are expected to work and thereby provide for their needs.

Does this social welfare system, designed in large part in the 1930s, provide sufficient protection for Americans as they are about to enter the twenty-first century? Have significant holes developed in the fabric of social protection, and, if so, is society willing to pay for mending them? Has the changing composition of the U.S. population, specifically the increase in the elderly and single-parent families, altered the premises on which the system was built? Why is there such a persistently high level of poverty, in good times and bad, and can anything be done to correct it? Can more be done to help the troubling number of American children who experience at least some poverty in their growing-up years?

These are some of the questions that the Ford Foundation set out to answer when in 1985 it launched a wide-ranging inquiry into alternative approaches to providing social insurance and welfare services, taking into account changes in the economy, in the family and work, and in the nation's age profile. Called the Project on Social Welfare and the American Future, the inquiry is led by a twelve-member executive panel of citizens representing the business, academic, civil rights, and labor

communities.* Chairman of the panel is Irving S. Shapiro, a former member of the Foundation's Board of Trustees and a former chief executive officer of the du Pont Company.

In the course of its inquiry, the panel commissioned a number of research reports and convened sessions of social policy experts to discuss approaches to such interrelated topics as health care, retirement and pension policy, poverty and welfare policy, and public and private social welfare programs. For one of the sessions, in September 1986, the panel invited leading scholars and practitioners in the field of poverty and welfare to discuss the policy implications of their work. They were asked to address three topics: the diverse and interrelated causes of poverty, the consequences of poverty for individuals and society as a whole, and whether the safety-net and training programs developed since the 1930s are appropriate for fighting poverty in the 1980s and beyond.

The reports offer an unusually comprehensive picture of why people are poor and what has been and might be done about it. For this reason, the Foundation has decided to publish them. The first two, issued in November 1987, were David T. Ellwood's review of our various income-maintenance programs and Judith M. Gueron's paper on how the welfare system might be reformed. A paper by Gordon Berlin and Andrew Sum, published in February 1988, analyzed the links between inadequate basic skills and a variety of social problems, from dropping out of school to unemployment to welfare dependency. In September 1988 Lawrence D. Brown reviewed U.S. health-care policy over the past forty years and discussed ways to make health care more accessible and affordable for large numbers. Now David P. Weikart analyzes the long-term benefits, to children and society, of high-quality early childhood education. The views expressed in the papers are the authors' own and do not necessarily reflect those of members of the executive panel or of the staff and board of the Ford Foundation.

We are grateful to the authors for taking time out from their busy schedules to set down their thoughts on a range of complex issues. Together, they have made a useful contribution to the current debate over social welfare policy.

Franklin A. Thomas
President
Ford Foundation

*Members of the panel are listed on page iii.

Quality Preschool Programs

The importance of early childhood education has been noted repeatedly in recent years. *Business Week*, in a September 19, 1988 cover story titled "Human Capital: The Decline of America's Work Force," concluded: "... as the economy comes to depend more and more on women and minorities, we face a massive job of education and training—*starting before kindergarten* [emphasis added]. Can we afford it? We have no choice." Mary Futrell, president of the National Education Association, has cited the power of early childhood education to reduce dropout rates for minorities.¹ State legislators, acknowledging the importance of preschool programs, have allocated millions of dollars for new programs. Even the Reagan administration, which cut appropriations for so many social programs, made an exception for Head Start, adding limited funds each year.

Much of the pressure to expand services for young children comes from working parents generally, although there is a special need for high-quality preschool programs for disadvantaged children. This paper will explore the contribution such programs can make as a long-term social investment and as a means of ameliorating the effects of poverty.

The Background: Children in Poverty

The statistics are troubling: About 22 percent of American children now live in poverty—4.8 million of the nation's 17.7 million children under six years of age.² And the proportion of poor children has grown. In 1969 it was 15 percent; at the time of the decennial census in 1974 it was 18 percent; in 1983 it was 25 percent. (See Table 1 for the breakdown of three- and four-year-olds by state.³) Up to 14 percent of American children in poverty have teenage mothers. Some 40 percent will live in a

broken home before they reach the age of 18. More than 10 percent have poorly educated, possibly illiterate parents, and more than 25 percent will never graduate from high school.⁴

These are the statistics for America's children in general. For minority youngsters, the data are much more discouraging. A black child is three times more likely than a white child to be born into poverty. A Hispanic child is more than twice as likely to be poor. The dropout rate for black and Hispanic youths continues to be extremely high,⁵ and the emphasis on tighter graduation and promotion policies, though commendable in some ways, will probably reduce school-completion rates for minorities even more.⁶

The statistics for poor children are in stark contrast to American ideals for equal opportunity for all citizens. The situation, however, calls for more than simple compassion, for the consequence of growing up poor in our society is a bleak future not only for each poor youngster, but also for all of us. The list of related social and economic problems is long: rising rates of crime, teen pregnancy, unemployment, welfare dependency, high school dropouts, and a growing shortage of skilled workers. The latter raises the issue of what social scientists call "the dependency ratio," the number of children and retired elderly dependent on every 100 workers. In 1950 seventeen workers contributed to Social Security pensions for each retiree. In 1986, 3.4 workers paid for the pension of each retiree. By the year 2000, the number of workers supporting each retiree will fall below 1.5.⁷ Every worker in America will have to be very skilled to generate the income necessary to support such dependency rates.

The Case for Preschool Education

Clearly, a variety of social and economic programs is required to address these problems. Preschool education, though just one of many such programs, is particularly appealing for many reasons. Education has been the traditional means by which people have improved their prospects for productive and satisfying lives. And all the available research strongly suggests that early childhood education provides poor children with a "head start," both intellectually and socially.

Many poor children are handicapped when they enter school because they have not had the chance to develop the skills, habits, and attitudes expected of children in kindergarten and first grade. This lack

Table 1 Estimated Numbers of Poor Children, Ages 3 and 4, by State (1983)

State	Total Number	Number Poor	Percent Poor	State	Total Number	Number Poor	Percent Poor
US	6,933,000	1,463,000	21.1	MO	149,000	29,000	19.3
AL	121,000	34,000	28.5	MT	28,000	5,000	19.0
AK	19,000	3,000	16.7	NE	52,000	8,000	15.9
AZ	95,000	20,000	21.6	NV	26,000	3,000	12.0
AR	73,000	21,000	28.1	NH	26,000	3,000	12.4
CA	748,000	157,000	20.9	NJ	193,000	38,000	19.5
CO	97,000	16,000	16.1	NM	51,000	14,000	26.8
CT	77,000	13,000	16.8	NY	464,000	122,000	26.3
DE	17,000	4,000	21.1	NC	168,000	38,000	22.5
DC	14,000	5,000	34.5	ND	23,000	4,000	18.4
FL	257,000	63,000	24.6	OH	322,000	59,000	18.5
GA	177,000	46,000	25.9	OK	105,000	21,000	19.8
HI	33,000	6,000	18.3	OR	84,000	15,000	17.5
ID	40,000	8,000	18.8	PA	309,000	58,000	18.7
IL	350,000	70,000	20.1	RI	23,000	5,000	20.0
IN	170,000	29,000	16.8	SC	101,000	25,000	24.5
IA	91,000	14,000	15.9	SD	25,000	6,000	25.4
KS	77,000	12,000	15.1	TN	136,000	34,000	25.4
KY	116,000	31,000	26.4	TX	529,000	121,000	22.8
LA	157,000	44,000	28.0	UT	84,000	12,000	14.5
ME	33,000	7,000	21.8	VT	15,000	3,000	19.4
MD	114,000	19,000	16.7	VA	151,000	28,000	18.7
MA	139,000	26,000	18.8	WA	133,000	22,000	16.8
MI	275,000	53,000	19.1	WV	59,000	14,000	23.0
MN	131,000	19,000	14.6	WI	145,000	22,000	15.2
MS	90,000	32,000	35.2	WY	21,000	2,000	9.3

Note: From U.S. Bureau of the Census, Current Population Survey of July 1983, unpublished data; resident population for states by age.

For more recent, but general, estimates of child population and poverty, see "A Call for Action to Make Our Nation Safe for Children: A Briefing Book on the Status of American Children in 1988," Children's Defense Fund, Washington, D.C., 1988.

of development is manifested in low scores on tests of intellectual or scholastic ability. Poor children may be developmentally advanced in other respects, but their lack of preparedness for school can lead to unnecessary (that is, preventable) placement in special education classes, being kept back a grade, repeated scholastic failure, and even-

tually dropping out of high school. On the other hand, poor children who do have the chance to attend good preschool programs learn the skills, habits, and attitudes expected of them in kindergarten and first grade. Thus they get off to a good start toward success in school and in life.

As the idea of giving children a "head start" took hold with educators and social scientists in the 1960s, many experimental programs were mounted and a limited number of scientific evaluations of the programs were made.⁸ The most carefully drawn studies of preschool child development programs suggest a pattern of cause and effect that stretches from early childhood into the adult years.⁹

As might be expected, most studies assessed the short-term effects of such programs; only a handful have been able to examine their effectiveness ten years or more after the programs' end. Yet the weight of the evidence from all the studies points in the same direction:

- Poor children who attend a good early childhood development program *are* better prepared for school, intellectually and socially.
- This better start *probably* helps them achieve greater success in school. Far fewer poor children who have attended good preschool programs need special education classes or have to repeat a grade.
- Their greater success in school tends to lead to greater success in adolescence and adulthood. Their rates of delinquency, teenage pregnancy, and welfare usage are lower, and their rates of high school completion and subsequent employment are higher.

There have been two recent attempts to integrate the findings of longitudinal studies of the effects of preschool education on the lives of poor children. They were made by two groups, the Consortium for Longitudinal Studies, an association of twelve educators and psychologists who developed separate longitudinal early childhood education programs, and the Head Start Synthesis Project, a study performed for the U.S. Administration for Children, Youth, and Families by CSR, Inc., a Washington-based consulting firm, which examined a decade of Head Start projects from 1971 through 1980.¹⁰

Both confirm that good preschool child development programs for poor children help prevent scholastic failure. First, these programs help improve children's intellectual performance when they start school. Second, good preschool programs help reduce the need for poor chil-

dren to be placed in special education programs or to repeat grade levels because they are unable to do the work expected of them. Third, participation in these programs leads to a lower high school dropout rate (see Table 2).

Additional evidence comes from a long-term study of the Perry Preschool Project in Ypsilanti, Michigan, conducted by High/Scope Educational Research Foundation, a nonprofit research and training organization. The study indicates that good preschool programs *can* lead to consistent improvement in poor children's achievement throughout their school years, a reduced delinquency and arrest rate, a reduced teenage pregnancy rate at age nineteen, and a decreased rate of dependency on welfare at age nineteen.¹¹

Evidence: The Perry Preschool Project

The Perry Preschool Project is a long-term study of 123 disadvantaged black youths from a single school district, who at ages three and four were randomly divided into two groups: one an experimental group that received a high-quality preschool education and the other a control group that received no preschool training. The study began in 1962 and is continuing. The children attended two years of preschool and then entered regular school at kindergarten. They received 2 1/2 hours per day of the center-based program and each family was visited for 1 1/2 hours each week. The classroom portion of the study existed between 1962 and 1967, with five groups completing the project. The study is now in long-term follow-up.

The purpose of the study was to explore whether participation in a high-quality early childhood education program would have long-term effects. The two groups were studied exhaustively on an annual basis from ages three to eleven; again at ages fourteen, fifteen, and nineteen; and currently at age twenty-eight. Among the hundreds of variables considered were: the children's abilities, attitudes, and scholastic accomplishments; their involvement in delinquent and criminal behavior; their use of welfare assistance; and their employment patterns.

The results through age nineteen were statistically significant. In education, fewer children were classified as mentally retarded, more completed high school, and more attended college or job-training programs. In the world of work, more now hold jobs, more support themselves by their own or spouse's earnings, and there is more satisfaction

Table 2 Documented Effects of Good Preschool Programs on Poor Children

Finding/Study	Program Group	Control Group	Probability of Error
Intellectual ability (IQ) at school entry			
Early Training	96	86	<.01
Perry Preschool	94	83	<.01
Harlem	96	91	<.01
Mother-Child Home	107	103	—
Special education placements (%)			
Rome Head Start	11	25	<.05
Early Training	3	29	<.01
Perry Preschool	37	50	—
New York Prekindergarten (age 9)	2	5	<.01
Mother-Child Home (age 9)	14	39	<.01
Retentions in grade (%)			
Rome Head Start	51	63	—
Early Training	53	69	—
Perry Preschool	35	40	—
Harlem	24	45	<.01
New York Prekindergarten	16	21	<.05
Mother-Child Home	13	19	—
High school dropouts (%)			
Rome Head Start	50	67	<.05
Early Training	22	43	<.10
Perry Preschool	33	51	<.05
Additional Perry Preschool Findings (%)			
Functional competence (average or better score)	61	38	<.05
Postsecondary enrollments	38	21	<.05
Detentions and arrests	31	51	<.05
Teenage pregnancies*	64	117	<.10
19-year-olds employed	50	32	<.05
19-year-olds on welfare	18	32	<.05

Note: Adapted from and described in John R. Berrueta-Clement, Lawrence J. Schweinhart, W. Steven Barnett, Ann S. Epstein, and David P. Weikart, *Changed Lives: The Effects of the Perry Preschool Program on Youths Through Age 19*. Monographs of the High/Scope Educational Research Foundation, 8 (Ypsilanti, Mich.: High/Scope Press, 1984), pp. 99-103.

*Per 100 girls.

Table 3 Summary of the Results of the Perry Preschool Project

	Experimental Group (%)	Control Group (%)
In Education		
Classified as mentally retarded	15	35
Completed high school	67	49
Attended college or job-training programs	38	21
In Employment		
Hold jobs	50	32
Support themselves or are supported by spouse	45	25
Satisfied with work	42	26
In the Community		
Arrested for criminal acts	31	51
Birth rate	64 ^a	117 ^a
Public assistance	18	32

^aBirth rates are per 100 women.

with work. In the community, fewer have been arrested for criminal acts, there has been a lower birth rate, and fewer have needed public assistance (see Table 3).

The Perry Preschool Project has become a standard point of reference for those who argue in favor of early education. Its acceptance is widespread. Mary Futrell, president of the National Education Association has praised it, as has Fred Hechinger, education columnist for the *New York Times*. The American Psychological Association has selected it as one of twelve validated methods of reducing social problems of adolescence. The latter endorsement occurred after a committee of scientists carefully reviewed research from 900 intervention programs. After reviewing economic studies of the Perry Preschool Project, the Committee on Economic Development called early education a major investment opportunity for the business community.¹²

The data from the project have been cited in newspaper editorials, become the basis of legislation in many states, and were used to buttress the case for increasing funding for National Head Start. The study also has been used extensively by numerous advocacy groups.¹³

The curriculum

The Perry Preschool Project used what has since been called the High/Scope Curriculum.¹⁴ In its first year, the project was defined loosely around traditional nursery school activities. After the first year, the theories of Swiss child psychologist Jean Piaget became more influential and the curriculum was reorganized accordingly. The fundamental premise of the current curriculum is that children are active learners and construct their own knowledge from activities they themselves plan and carry out. This concept of active learning affects everything in the curriculum, from teacher training to parent involvement.

Such an approach implies a consistent daily routine because the children have to be able to follow up on their plans and ideas. The adherence to routine gives the children control of their time, which helps them develop a sense of responsibility and of independence. The daily routine includes a "plan-do-review" sequence and incorporates cleanup, as well as small- and large-group activities. This cycle permits children to make choices about their activities and keeps the teacher involved in the whole process.

Planning gives children consistent opportunities to express their ideas to adults and to see themselves as individuals who can make decisions and act on them. The children experience the power of independence and the joy of working with attentive adults and peers. Since the children are responsible for executing their plans, the adults do not lead work-time activities. The adult's role during work time is first to observe how children gather information, interact with peers, and solve problems. Adults then enter into the children's activities to encourage them and to help them set up problem-solving situations.

The final phase of the plan-do-review cycle gives children an opportunity to represent their experiences in a variety of developmentally appropriate ways. They can draw pictures or make models of what they did, review their plan, or describe the activities they undertook.

Based on Piaget's theory of cognitive development, the curriculum is organized around "key experiences" that are important in the development of rational thought. The experiences are divided into eight categories: active learning, using language, representing experiences and ideas, classification, seriation, number concepts, spatial relations, and time. New experiences, in computer literacy and movement and dance, are being added. Each of these categories is further subdivided. The key

experiences create a frame of reference that helps the teachers assess the children's progress so that they can work with them at each stage of their development.

Although the High/Scope curriculum is based on a particular theoretical perspective, it is an open framework approach. This means that people can use it in many disparate situations with many different kinds of children. It is now widely used throughout the United States and in many other countries, including Great Britain, Australia, Chile, Peru, Bolivia, Ecuador, Colombia, the Netherlands, Norway, Portugal, and Mexico.

The validity of the study

The Perry Preschool study was designed as a true experiment, with subjects randomly assigned to experimental or control groups. Another strength of the study is that it repeated the experimental-control group design annually for five successive waves of children. Although the study sample (123 subjects) is small compared to cross-sectional surveys, nearly all of the subjects are still available to the project. Such availability eliminates the problem of attrition that plagues so many longitudinal studies, even those that last only a few years.

Although both control-group and experimental-group children were sometimes known by teachers to be participants in a child development study, there was little reason for teachers to attach importance to the fact that some children had attended a preschool program and some had not. At the time, few children participated in early education. There was essentially no teacher bias toward one group or the other. Furthermore, the important "hard" data—on employment, pregnancy, welfare, crime, and postsecondary education—are beyond dispute or bias.

Data from the study have been internally consistent over the years, no matter how or by whom the data were collected. There is no indication that the control group did better than the experimental group at any point. The data collected from subjects' own reports have been corroborated by data collected by outside agencies. For instance, arrest records, documented on police blotters, corroborate the participants' reports of arrests; official school records have been used to confirm the findings of testing and interviews of subjects by project staff; and the computer files of the Michigan Department of Social Services have been matched with the participants' reports on their use of welfare.

The study chose to collect variables that would be meaningful to society rather than those important mainly to psychologists. The effort thus focused on "real world" success as well as on test scores, using such indicators of outcomes in school as special education placement, school attendance, retention in grade, remedial education placement, and school completion. Outside of school the study focused on participation in the labor force, crime and delinquency rates, and arrest rates.

Finally, the study has been reviewed in detail by external groups and found to warrant the status it has received. As noted above, the scientific aspects were reviewed by a committee of the American Psychological Association, the raw data to age 15 were completely re-analyzed by the Consortium for Longitudinal Studies, and the study's economic findings were reviewed by economists as part of the review undertaken by the Committee for Economic Development.

Toward an evaluation

The Perry data indicate the great importance of high-quality educational experiences during the transition from infancy to the elementary school years, at ages three, four, five, and six. This finding can be generalized to any youngster, poor or middle class. Although the educational, social, and economic results for middle-class children might not be as dramatic as those for the disadvantaged children in the Perry Preschool Project because middle-class children tend to have more advantages to begin with, still the preschool years are clearly crucial for all children.

To sum up: The data from the Perry Project have been stunningly consistent for decades. Three separate groups have given it positive reviews and have analyzed its design and data management in detail: the Consortium for Longitudinal Studies, the American Psychological Association, and the Committee for Economic Development. Further, some of its findings have been replicated successfully by other studies.

Follow-up studies

The continued follow-up of the Perry Preschool children, who are now adults (age twenty-eight), is under way. The first sixty interviews of the 123 subjects have been completed. So far, the data at age twenty-eight give every indication of dramatically expanding the findings from age nineteen. The differences between control and experimental groups

at age nineteen seemed to grow sharper in later years. However, the full sample will have to be interviewed before this early trend can be confirmed.

The High/Scope Foundation is also engaged in a study of nineteen- and twenty-year-olds in Ft. Walton Beach, Fla., and in Greeley, Colo., who had been involved in the National Planned Variation Head Start Project of 1969-70. In these projects the High/Scope Curriculum was implemented by local staff, who periodically consulted with the High/Scope staff. Third-party evaluators (Marshall Smith, now Dean, College of Education, Stanford University) obtained very positive results during the duration of the project. High/Scope is currently studying the differences between the young adults who participated in the early childhood projects and those who did not. Almost all the individuals, 760 in all, have been identified and located. If the data studied for these young people show the same results as the data for those who participated in the original Perry Project, there will be strong evidence that high-quality early childhood education programs—at least as exemplified by those that used the High/Scope Curriculum—can have a significant impact in different geographic situations with different Head Start populations and typical Head Start staff. Until the study is complete, however, generalization to groups other than those similar to High/Scope's should be limited.

Cost-benefit analysis

The Perry Preschool study includes the most complete cost-benefit analysis of early childhood education yet undertaken. A first, rudimentary effort made in 1971 looked at scholastic placement from a cost-savings viewpoint. A second, major effort was carried out under the direction of an economist using data collected from the schools through 1973. The most recent report presents a new economic analysis based on data collected through 1982 from schools, police and courts, and social services.¹⁵

The cost-benefit analysis of the Perry Preschool program, covering fifteen years of follow-up data, indicates that this type of program can be a good investment for taxpayers. The major cost (in constant 1981 dollars, discounted at 3 percent annually) is the initial investment of about \$5,000 per participant per program year. (It is important to note that this

cost includes items of school operation that are usually overlooked, such as building depreciation, clothing, volunteers, etc.) The additional costs of postsecondary education added about \$1,000 to the total cost. The major benefits for the taxpayers were savings per participant of about \$5,000 for special education programs, \$3,000 for crime, and \$16,000 for welfare assistance. Participants were expected to pay \$5,000 more in taxes because of increased lifetime earnings (predicted from their improved educational attainment).

The total benefits to taxpayers amount to about \$28,000 per participant, which is nearly six times the initial cost of the one-year program, or three times the cost of the two-year program. The return is large enough that even a two-year program that was only half as effective as the program studied would still yield a positive return on investment. The savings on special education alone are equivalent to the cost of a one-year program (see Table 4).

Table 4 Perry Preschool Program Per Child: Costs and Benefits to Taxpayers

Benefit or Cost	Approximate Dollar Value (in thousands)	Benefit-Cost Ratio
Benefit		
K-12 school cost savings	5	—
Added college costs	-1	—
Crime reduction savings*	3	—
Welfare savings	16	—
Additional tax dollars paid by participants	5	—
Total benefits to taxpayers	28	—
Cost		
One-year program	-5	6 to 1
Two-year program	-9	3 to 1

Note: Table entries are constant 1981 dollars, discounted at 3 percent annually. Adapted from John R. Berrueta-Clement, Lawrence J. Schweinhart, W. Steven Barnett, Ann S. Epstein, & David P. Weikart, *Changed Lives: The Effects of the Perry Preschool Program on Youths Through Age 19*, Monographs of the High/Scope Educational Research Foundation, 8 (Ypsilanti, Mich.: High/Scope Press, 1984), p. 91.

*Savings to citizens as taxpayers and as potential crime victims.

Factors That Contribute to Successful Life Patterns

It would seem worthwhile to attempt to identify the dynamic social factors that lead to a life pattern of success—broadly defined as one that is self-supporting and law-abiding. A preliminary attempt was made in the Perry Preschool Project's eight in-depth case studies of preschool participants at age nineteen. The main purpose of the case studies was to develop issues for discussion.¹⁶

The studies indicated that four factors most consistently differentiated those whose lives are successful from those whose lives are not: parental and family support for education; positive role models, particularly those who demonstrate the value of schooling; a sense of responsibility that extends beyond oneself; and an active, goal-oriented approach to life.

Basic attitudes about education are probably already ingrained when a child enters school, be it preschool or kindergarten. Although preschool may not be able to change a negative family attitude, it does appear that it can reinforce or give concrete direction to a positive one.

Role models are present or absent in children's families, regardless of whether they attend preschool. Nonfamily role models first appear most influential around junior high school, but if students are not part of the school success flow, they are likely to miss the opportunity to be exposed to teachers and other positive role models in junior high. In helping put children on the success track, preschool can indirectly affect life outcomes.

A sense of responsibility seems to stem from one's family values, but goal orientation appears to be a personality characteristic formed by a multitude of inner and external influences. Yet preschool may reinforce what a child already brings with him or her. It may be that the preschool experience is an important early step on the road to independence. Successful young adults have a sense of responsibility for others and believe they can take care of themselves and those for whom they feel responsible. Preschool can give youngsters a year or two to develop these social values before facing the more formal demands of public schools.

Preschool may also instill a certain confidence in a youngster that ultimately contributes to a more active goal orientation. All of the successful participants viewed themselves, more or less, as self-made people. While acknowledging the importance of their families or other role

models in their achievements, the young men and women always came back to their internal motivation. They believed in themselves, often more than others believed in them.

In an earlier study of parents and infants, High/Scope found that children who are active participants in problem-solving processes and who perform well academically had mothers who interacted with them from infancy on in ways that were verbally supportive and responsive. Conversely, children who are not involved in problem-solving processes and who perform more poorly academically, tended to have mothers who did not so interact.¹⁷

Factors That Contribute to Successful Preschool Programs

Successful preschool programs are the result of numerous variables. Some are known; others are still being discovered. Following is a brief discussion of factors that have come to High/Scope's attention from the Perry Preschool Project and other preschool programs.

Curricular factors

High/Scope has studied the effects of three different preschool curriculum models on the subsequent lives of children through the age of fifteen. At the ages of three and four, sixty-eight preschoolers in Ypsilanti, Mich., were randomly assigned to one of three curriculum groups. Fifty-four of the youngsters (79 percent of the original sample) were interviewed at age fifteen.

The three curricular approaches differ mainly in the degree of initiative required of teacher and child—that is, whether the primary role of each is to initiate or respond.

The first approach, inspired by the psychological theory of B.F. Skinner and other behaviorists, may be called the programmed learning or direct instruction approach. Briefly, in this approach the teacher initiates clearly defined, structured activities and the child responds and receives positive reinforcement. The second, an open framework approach, is based largely on the cognitive development theories of Jean Piaget and is represented by the High/Scope curriculum as described above. Its activities involve specific "key experiences" that promote intellectual and social development. The third, a child-centered approach, consists of elements of traditional nursery school programs. Based on Freudian psychoanalytic theory, this type of curriculum

allows the child to express needs and interests, while the teacher responds and encourages free play.

Although earlier reports from the study found no significant differences in results from any of the three different approaches, the most recent findings have raised some questions about direct instruction, or behaviorist, programs, at least for disadvantaged children at the preschool age. These results also refocus attention on the importance of the surrounding environmental events that permit learning rather than simply on the knowledge content itself.

High/Scope's latest report shows that the three preschool curriculum groups differed little in their patterns of IQ and school achievement over time. However, according to the children's reports at age fifteen, the group that attended the direct instruction preschool program engaged in twice as many delinquent acts as did the other two groups, including five times as many acts of violence against property. The direct instruction group also reported relatively poor relations with their families, less participation in sports, fewer after-school jobs and less reaching out to others for help with personal problems. These findings, based on one study with a small sample, are by no means definitive; but they do suggest possible consequences of preschool curriculum models.¹⁸

Parent involvement

Involvement of parents has been a basic part of American early education programs since the mid-1960s. Preschool programs typically include extensive outreach to all parents, even those who are hard to reach, and offer the parents programs that provide a context for their children's educational experience. Included are efforts to teach parenting skills, particularly for adolescent parents, so they can be more successful in supporting the child's growth. These programs are usually directed at women, especially in recent years as more single women have become heads of households.

A number of writers have attributed the success of early childhood programs to parental involvement, arguing that it alone is the most effective factor in a program's success. However, some projects, like F. H. Palmer's early education tutoring project in Harlem, did not include parents and even so reported moderate success.¹⁹ No single general factor can "explain" such a complex event as successful child development.

One issue is the character of parent involvement. In a recent study, Nathan Caplan, an analyst with the University of Michigan Institute for Social Research, explored the educational success of the waves of Vietnamese boat people who arrived in the United States in the late 1970s.²⁰ He and his study group looked at the records and interviewed some 200 households containing 536 children. He found an amazing story of success in education. Some 22 percent were getting an overall average of "As" in school grades and equivalent scores on standard achievement tests. Some 44 percent were getting all "As" in mathematics. Only 21 percent were getting "Cs" or below in their school averages. These accomplishments occurred after only two to four years in American public schools. When Caplan looked at the families themselves he found people from a culture that differed dramatically from that in American schools, people who were essentially uneducated and had minimal English and minimal preparation for the American job market. Further, the majority of the young people studied were attending schools in the worst ghetto areas, where many of their peers were failing miserably.

There was little reason to expect that the Vietnamese children would do well in American schools. The Vietnamese had all the handicaps usually cited as the reasons why other minority children have done poorly: a different culture, a different language, attendance at poor schools, parents on welfare or in low-wage jobs, and little or no contact between home and school.

Caplan found, however, that the Vietnamese families were committed to a work ethic and that they believed that individuals should be willing to try new things and should assume full responsibility for their own behavior and obligations. In short, they held their children responsible for performance. If there were problems, the parents would say to the child, "Why have you not worked harder to do better?" In looking further into the home environments, Caplan found that the parents had one major "procedure" in common: they all read to their children in their native tongue. The importance of reading to children has long been established in studies of American children, so this particular finding comes as no surprise.

Overall, Caplan's study seriously questions our current approach to parent involvement. It argues for a reexamination of the methods we use with parents and the objectives we hold for preschool programs. Indeed,

when early education projects have succeeded with children under the age of three, it has typically been through the parents. The various models developed through National Head Start are the predominant ones in the United States. Home Start, which provides early education and parent training in the home, until recently provided training for staff of various Head Starts from four resource centers sponsored by the Administration for Children, Youth, and Families, Head Start Bureau. The resource centers have recently been phased out, leaving the training for Home Start activities somewhat in doubt. The Parent-Child Development Centers sponsored by the Head Start Bureau suffered much the same fate several years ago. Four experimental models — based in Birmingham, Alabama; New Orleans, Louisiana; Houston, Texas; and Detroit, Michigan—served as a foundation for that work. Because of the limited data supporting their effectiveness, the models were also dropped.

One current model that has generated some interest in the United States was developed in Israel and is called the Home Instruction Program for Preschool Youngsters (HIPPY). It was developed at about the same time as models in the United States, such as the Ypsilanti Carnegie Infant Education Program. There are some general statements about HIPPY's effectiveness, but no systematic data.

In summary, direct parent involvement models, except for standard approaches like those Head Start has used, have been less effective than was initially thought. Data from the Caplan study suggest strongly that various American approaches to these problems have been too general. There is a strong need to focus not only on a general mental health approach but also on clear-cut activities with the parent and child and on the realization that effective parenting involves helping the child develop a firm sense of responsibility.

Combining Caplan's data with the information from the Perry Preschool case studies and the Ypsilanti Carnegie Infant Project, one can begin to glimpse possible directions for reforming current parent involvement programs. They include developing adequate role models, clear verbal interactions, both in the simple use of language and in problem solving, and opportunities for learning responsibility. We now have some valuable information that can help improve our parent involvement programs.

Program quality

The research findings cited above are not an endorsement of *all* early childhood programs. There is no intrinsic value in a young child's leaving home for a few hours a day to join another adult and a group of children. A preschool classroom or child-care center is just another place for a child to be, unless the quality of the program is carefully defined and maintained. The positive effects of preschool programs apply only to high-quality child development programs.

What is a high-quality program? The concept is dynamic. It is not a matter of teacher education degrees or even of resources; rather it consists in steadily focusing on the most efficient use of staff skills within a curriculum. The results depend upon the process by which the curriculum is implemented. Thus, programs can be successful in many different settings and with a variety of curricula: home delivered, family-based approaches, programs in Third World countries with a minimum of staff training and resources, and many other situations as well. The key remains excellent supervision preferably within a child development curriculum model.

One constant dilemma has plagued the national Head Start project, which now serves only one in five eligible children. With limited funds, is it better to provide high-quality programs to some children, or to provide inferior programs to a larger number of children? I believe it is a poor public investment to finance preschool programs at levels that are insufficient to provide high-quality programs. If quality is sacrificed in order to serve more children, the value of the program for all the children may be undermined.

If a preschool program is to promote children's development intellectually, socially, and physically, it must meet the high standards of quality of competent child development professionals who establish an environment that supports the child in active learning. To meet this criterion, a child development program should have the following characteristics:

- A clearly stated, validated curriculum that features child-initiated activities. This kind of curriculum accepts children at whatever developmental level they are on. It provides ample opportunity for children to solve problems independently, to initiate meaningful conversations with peers and adults, and to explore materials and interests on their own.

- At least two adults for each group of sixteen to twenty children.
- Staff trained in early childhood education and care, and a clear plan for continued in-service training and for systematic classroom supervision in the curriculum methodology.
- Effective evaluation procedures that help the staff observe each child's responses to the environment and the programs.
- Active involvement of parents in developing and operating the program, and in parent training activities.
- Good administrative backup, and clear links to such comprehensive services as health, nutrition, and social supports.

Preschool in the 1980s:

What States Are Doing

Following Ronald Reagan's election in 1980, funding for many social programs was curtailed. Not so for Head Start. With its strong political base, public popularity, and backing of research studies proving its effectiveness, Head Start has prospered. Appropriation increases, though limited, have occurred each year.

The new arena for action has been at the state level. (See Table 5 for a breakdown of Head Start funding and of the financial commitment of individual states to early childhood education.) In many states the funds represent first-time efforts and will be followed by larger commitments. For example, Michigan spent \$1.2 million in 1987 but will spend \$17.3 million in 1989. Illinois spent \$12.7 million in 1987 and will spend \$24.7 million in 1989. It must be noted that although the figures for individual states are the best available, some are only estimates. Nevertheless, the trend is clear. Large amounts of money are streaming in to support early childhood care and education.

Once state programs receive sufficient resources, the major issue facing them during this period of expansion is quality. Various efforts are under way to help all kinds of early education programs maintain quality. For example, various states are trying to improve licensing standards. At present, state departments of education do not recognize the jurisdiction of state departments of social services, which typically do the licensing for day care and other child services; there are signs, however, that cooperation is growing. Some states — Illinois, for example — have arranged that, at a minimum, the education programs meet the

Table 5 National Head Start Allocations for 1985 and 1988 State Appropriations to Early Childhood Education Programs (unless otherwise noted)

State	1985 Federal Head Start Allocations ^a	1988 State Appropriations ^b	Agencies for State Funds
Alabama	\$21,350,000		
Alaska	2,227,000	\$197,000	Head Start
Arizona	9,000,000		
California	99,450,000	35,500,000	State Preschool Programs
Colorado	9,615,000		
Connecticut	9,830,000		
Delaware	2,195,000	189,000	Public Schools
Dist. of Columbia	6,190,000	12,200,000	Public Schools
Florida	28,890,000	4,500,000	Migrant, Head Start, and Public Schools
Georgia	24,780,000		
Hawaii	3,925,000		
Idaho	2,865,000		
Illinois	52,850,000	12,700,000	Public Schools and others
Indiana	14,500,000		
Iowa	7,650,000		
Kansas	6,550,000		
Kentucky	20,065,000	1,033,000	Public Schools and others
Louisiana	21,950,000	1,800,000	Public Schools
Maine	4,300,000	1,900,000	Head Start
Maryland	13,900,000	3,300,000	Public Schools
Massachusetts	22,890,000	10,300,000	Head Start and Public Schools
Michigan	43,086,000	11,500,000	Public Schools and Head Start
Minnesota	10,800,000	11,300,000	Public Schools
Mississippi	51,873,000		
Missouri	18,113,000		
Montana	2,608,000		

Table 5
continued

State	1985 Federal Head Start Allocations ^a	1988 State Appropriations ^b	Agencies for State Funds
Nebraska	4,190,000		
Nevada	1,480,000		
New Hampshire	1,980,000		
New Jersey	30,800,000	7,900,000 ('87)	Public Schools and Head Start
New Mexico	6,173,000		
New York	77,026,000	27,000,000	Public Schools
New York City		5,000,000 ('86)	Public Schools and Head Start
North Carolina	21,875,000		
North Dakota	1,520,000		
Ohio	42,678,000	18,000	
Oklahoma	12,522,000	832,000	Public Schools
Oregon	18,272,000	550,000	Public Schools
Pennsylvania	44,350,000	1,700,000 ('87)	Public Schools
Rhode Island	3,390,000	345,000	Head Start
South Carolina	13,670,000	10,000,000	Public Schools
South Dakota	2,400,000		
Tennessee	18,510,000		
Texas	47,110,000	46,200,000	Public Schools
Utah	4,315,000		
Vermont	2,053,000	500,000	Public Schools
Virginia	14,793,000		
Washington	11,487,000	4,700,000	Head Start and others
West Virginia	8,903,000	258,000 ('86)	Public Schools
Wisconsin	15,290,000	4,300,000	Public Schools
Wyoming	1,370,000		

^a1985 Estimated State Head Start Allocations, Administration for Children, Youth, and Families (Head Start).

^bJane Weil, State of Maine Expansion of Head Start Programs (Ellsworth, Maine: Action Opportunities, Inc., 1986); and The State Board Connection, *Issues in Brief* (a publication of the National Association of State Boards of Education), March 1988, Vol. 7, No. 3.

licensing standards of the department of social welfare.

An alternative method of licensing is to have independent certification boards set the standards. The best known example is the national program of the National Association for the Education of Young Children. Its standards have been adopted by many states as part of their total approach to maintaining quality.

The fundamental issue in quality programming, however, is not state regulation or accreditation standards, but the day-to-day operations of a carefully supervised program that follows a specific curriculum. One example of this type of effort has been a recent attempt by High/Scope's Training of Teacher-Trainers Project. Educational trainers from various agencies in a community were drawn together in groups of approximately twenty for about 210 hours of training, which was spread over the year in seven weeklong sessions. The purpose was to train the supervisors who would provide consistent assistance to classroom teachers. This approach has been well received and has had a long-term effect on the communities involved. As one trainer in the program remarked, "Before the training we only talked about what we knew; now we actually apply it."

Introducing a systematic model has been especially valuable in improving the quality of local home-based day care and family day-care programs. Most of these programs had been primarily custodial and had not provided much in the way of education. The home day-care mothers who are receiving training in the High/Scope Training of Teacher-Trainers Project report that they now believe they can compete equally with other programs, even those of public schools. Understanding what to do and why, they can now offer a strong educational component to the children.

Given the size of the economic benefits that a high-quality program like the Perry Preschool Project can deliver, there is ample room for programs that are not quite as sophisticated. Even a program that is only half as effective would result in a large financial saving. The research shows clearly that children can profit from the preschool experience; the task now is to see to it that quality services are offered to them.

Policy Issues

Investing in early childhood education would be an important step toward improving the quality of life for disadvantaged children, their

families, and for society at large. Each of these groups derives such extraordinary benefits that it is worth the effort to restructure services so that all may gain. However, a number of issues must be resolved for that to happen.

Allocation of resources. How are the financial resources to be allocated so that early childhood education can succeed in reducing both social problems and the burdens of future taxpayers? Early childhood education programs will need major resources to accomplish both these objectives. States need incentives to continue to expand the services provided through both educational and social service channels. Currently, about 22 percent of American children qualify for Head Start programs. The present enrollment covers approximately 20 percent of those eligible. It would be a major step to expand National Head Start so it can serve all the eligible children. At present it appears that the best way to expand services is through state efforts. Policies are needed that encourage states to invest in this area.

Maintaining high quality. As noted, early childhood education programs are effective only if their quality is high. Good programs can include a wide range of options, but broadening the scale of high-quality programs is complicated because it involves staff training and supervision, better pay and job stability, and a host of other needs. This area calls for study and bold ideas, positive actions and solutions. The danger is that the resources will be spent on "average" early education programs that will be mainly ineffective and waste the investment.

The virtues and problems of fragmentation. Individuals and institutions that serve young children are highly fragmented. They include not only public schools and social service groups but also churches and commercial enterprises. The field comprises individuals from social services, education, and the health professions. How can the key issues be brought into focus while preserving the independence of the various groups providing direct service? A great deal of effort will be required to link these diverse service professionals and agencies; strategies must be developed to join forces for training, information sharing, and other efforts.

The issue of day care. One of the central problems facing the country today is care for children while parents work. Gradually, Head Start and other child-care programs are becoming full workday programs. However, the entrance of the public schools into the early childhood

education field is a complicating factor. Typically, full-day programs in the public schools are only five hours long, while full workday programs have to cover eight to ten hours. It will be necessary to build cooperation between the public schools and agencies that have the facilities and experience to deal with child care.

What about the middle class? The problem of day care brings up the strong interest that middle-class families have in giving their children education and care while parents work. So far, there is no evidence from any of the literature that middle-class children "need" preschool programs—as disadvantaged children certainly do. In general, it is assumed that middle-class children receive the verbal stimulation and role models they need from their families and do not require external services. However, we do not know how middle-class children are affected by growing up in homes where both parents work. Until research is done on this type of youngster, the issues are not clear.

There is also a serious question as to whether services for children should be segregated by social class and income. It would seem that services should be provided to all classes of society in an integrated fashion. Thus, Head Start's practice of including 10 percent of youngsters who are above the income requirements and 10 percent who are handicapped, without regard to family income, is a good one. There is a need for policies that encourage the blending of social classes in service programs.

Dangers of formal academic standards. With the arrival of state funding, some schools are planning to foist formal academic standards on young children. Usually, school curricula involve direct instruction in reading, writing, and arithmetic. The new High/Scope Curriculum Study data, however, raise serious questions about this pattern. The public schools need considerable guidance and training to learn new ways of thinking about young children in terms of their developmental needs. Various statements about quality programs have been made by several states and by the National Association for the Education of Young Children. Although these statements are helpful, a major, well-coordinated effort is required to inform elementary school administrators and others of these facts.

Distrust of public schools. With state funding for early childhood education going mainly to the public schools, the climate for service programs has become murky. Until now in the United States, the agen-

cies serving young children have been a mix that included church-related, private for-profit, private nonprofit, and various public-sector groups. Groups like the National Black Child Study Institute have expressed concern that if the public schools take hold of the early childhood education programs, they will extend the problems of disadvantaged minority children in the public schools to the preschool level. Clearly, some way must be devised so that the various groups and the schools can work together and not at cross purposes.

Shortage of personnel. This is one of the principal problems early childhood education faces. The shortage is especially severe in the "low-wage" Head Start field because, as people become trained in the programs, they are hired by other public agencies that can afford to pay higher salaries. Thus, there is a rotation of staff in and out of Head Start, day care, and other early childhood service agencies.

Means will have to be found to capture the value of the training that Head Start gives and to provide incentives for people to remain as supervisors and directors. A two-tiered system should be explored. The first tier would be that of people in transition who would remain in the Head Start program for two or three years, basically for the training it provides. Thus, Head Start could provide a transition for unemployed people or those with minimal job experience. The second tier would be a supervisory level that would pay salaries equivalent to those of the public schools, so that longer-term commitment becomes possible.

Conclusion

As effective as they can be, early childhood care and education will not solve all our social problems—whether in jobs, housing, crime, welfare, or teenage pregnancy—let alone social and racial injustice or the gap between the rich and the poor. By helping children start on the road to achieving their potential, however, high-quality early childhood programs can provide a means to ameliorate these problems and thereby serve all of society, however indirectly.

Notes

1. Mary Hatwood Futrell's views appear in her article in *American Psychologist*, "Public Schools and Four-Year-Olds: A Teacher's View," March 1987, Vol. 42, 251-253.
2. For a detailed presentation of these data, see Committee on Ways and Means, U.S. House of Representatives, *Children in Poverty* (Washington, D.C.: U.S. Government Printing Office, 1985), pp. 3-14.
3. This table and other information were drawn from a series of policy papers prepared by Lawrence J. Schweinhart for High/Scope: *Early Childhood Development Programs in the Eighties: The National Picture*, No. 1, 1985; *The Preschool Challenge*, No. 4, 1985; and with Jeffrey Koshel, *Policy Options for Preschool Programs*, No. 5, 1986.
4. On May 14, 1986, a special edition of *Education Week* presented a special report entitled, "America's Changing Outlook for Schools and Society." Although the editors of *Education Week* prepared the report, they used, in part, the data collected by Harold L. Hodgkinson of the American Council of Education. Also see "Special Report, Black and White," in *Newsweek*, March 7, 1988, for another broad statement of these major issues.
5. See note 4 above.
6. MDC, Inc., reached this conclusion after reviewing the work of various state commissions on excellence in education and reported it in *Who's Looking Out for At-Risk Youth* (Flint, Mich.: Charles Stewart Mott Foundation, Fall 1985).
7. See note 4 above.
8. The two best-known studies are *The Impact of Head Start: An Evaluation of the Effect of Head Start on Children's Cognitive and Affective Development* (Athens, Ohio: Westinghouse Learning Corporation, 1969), Vols. I and II; R.H. McKey, L. Condelli, H. Ganson, B. Barrett, C. McConkey, and M. Plantz, *The Impact of Head Start on Children, Families, and Communities*, Final Report of the Head Start Evaluation, Synthesis, and Utilization Project (Washington, D.C.: CSR, Inc., 1988).

9. A collection of reports on various longitudinal studies was assembled by the Consortium for Longitudinal Studies. See Consortium for Longitudinal Studies, *As the Twig Is Bent . . . Lasting Effects of Preschool Programs* (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983).
10. See notes 8 and 9 above.
11. For the most recent statement on the High/Scope Perry Preschool Project, see John R. Berrueta-Clement, Lawrence J. Schweinhart, W. Steven Barnett, Ann S. Eptstein, and David P. Weikart, *Changed Lives: The Effects of the Perry Preschool Program on Youths Through Age 19* (Monographs of the High/Scope Educational Research Foundation, 8, Ypsilanti, Mich.: High/Scope Press, 1984).
12. The economic review is in the Committee for Economic Development's *Investing in Our Children* (New York: Committee for Economic Development, Research and Policy Committee, 1985); the American Psychological Association Task Force on Promotion, Prevention, and Intervention Alternatives made the selection after a year's review of more than 900 projects. In R. Price, E. Cowen, R. Lorion, and J. Ramos-McKay (Eds.), *Fourteen Ounces of Prevention: A Casebook for Practitioners* (Washington, D.C.: American Psychological Association, 1988). Also see Fred M. Hechinger (Ed.), *A Better Start: New Choices for Early Learning* (New York: Walker and Company, 1986).
13. Personal communication from Helen Blank, Children's Defense Fund, Washington, D.C., May 1986.
14. For a current description of the High/Scope Curriculum, see Mary Hohmann, Bernard Banet, and David P. Weikart, *Young Children in Action* (Ypsilanti, Mich.: High/Scope Press, 1979). The book has been translated into Spanish, Portuguese, Dutch, Norwegian, and Arabic.
15. The first economic report appeared in David P. Weikart, *Early Childhood Special Education for Intellectually Subnormal and/or Culturally Different Children* (Washington, D.C.: National Leadership Institute in Early Childhood Development, October 1971). The second report was in Carol U. Weber, Phillips W. Foster, and David P. Weikart, *An Economic Analysis of the Ypsilanti Perry Preschool Project* (Ypsilanti, Mich.: High/Scope Press, Monographs of the High/Scope Educational Research Foundation, 5). The most recent was in *Changed Lives*, Berrueta-Clement, et al., op. cit. (see note 11). A detailed account may be found in W. Steven Barnett, *A Benefit-Cost Analysis of the Perry Preschool Program and Its Long-Term Effects* (Ypsilanti, Mich.: High/Scope Press, High/Scope Early Childhood Policy Papers, No. 2, 1985).
16. The case studies and other data are presented in detail in *Changed Lives*, Berrueta-Clement, et al. op. cit.

17. The study of parents and infants was a longitudinal study started in 1968. Two monographs outline the project and its results: Delores Z. Lambie, James T. Bond, and David P. Weikart, *Home Teaching with Mothers and Infants: The Ypsilanti-Carnegie Infant Education Project: An Experiment* (Ypsilanti, Mich.: High/Scope Press, Monographs of the High/Scope Educational Research Foundation, 4, 1974); also Ann S. Epstein and David P. Weikart, *The Ypsilanti-Carnegie Infant Education Project: Longitudinal Follow-Up* (Ypsilanti, Mich.: High/Scope Press, Monographs of the High/Scope Educational Research Foundation, 6, 1979). For a view that confirms the family's role in development, using another body of research, see P.W. Greenwood and F.E. Zimring, *One More Chance: The Pursuit of Planning Intervention Strategies for Chronic Juvenile Offenders* (Santa Monica, Calif.: Rand Corporation, 1985).
18. The findings of this new High/Scope study are reported in Lawrence J. Schweinhart, David P. Weikart, and Mary B. Lerner, "Consequences of Three Preschool Curriculum Models Through Age 15," *Early Childhood Research Quarterly* (1986), Vol. 1, No. 1, pp. 15-45. For a discussion of some of the issues raised by several proponents of direct instruction, see Lawrence J. Schweinhart, David P. Weikart, and Mary B. Lerner, "Child-Initiated Activities in Early Childhood Programs May Help Prevent Delinquency," *Early Childhood Research Quarterly* (1986), Vol. 1, No. 3, pp. 303-312.
19. See F. H. Palmer, "The Harlem Study: Effects by Type of Training, Age of Training, and Social Class," in Consortium for Longitudinal Studies, *As the Twig Is Bent . . . Lasting Effects of Preschool Programs* (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1983).
20. See Nathan Caplan, John K. Whitmore, and Quang L. Bui, *Southeast Asian Refugee Self-Sufficiency Study* (Ann Arbor, Mich.: The Institute for Social Research, University of Michigan, 1985). Caplan and his study group have produced a series of interesting papers on this project. See in particular *Refugee Reports*, American Council for Nationalities Service, Vol. VI, No. 10, October 1985.

The Ford Foundation's Project on Social Welfare and the American Future is exploring alternative ways to provide for the nation's social insurance and welfare needs, given the dramatic changes that have occurred in the economy, family, work, and health care since the system was first devised in 1935.